DOCUMENT RESUME

ED 259 068 UD 024 342

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TITLE A Study of the Spanish Translation of the Wechsler Intelligence Scale for Children-Revised with Puerto Rican Children and Adolescents.
SPONS AGENCY Department of Education, Washington, DC.; Hartford Public Schools, Conn.; Kellogg Foundation, Battle Creek, Mich.; Puerto Rico State Dept. of Education, Hato Rey.
PUB DATE 27 Jun 85
NOTE 7p.; Paper presented at the Circum Mediterranean IACCP (International Association of Cross Cultural Psychology) Conference: "Ethnic Minority and Immigrant Research" (1st, Malmo, Sweden, June 27, 1985).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Adolescents; Cross Cultural Studies; *Cultural Differences; Elementary Secondary Education; *Intelligence Tests; Migrant Youth; *Predictive Validity; *Puerto Ricans; *Test Reliability; Translation
IDENTIFIERS *Escala de Inteligencia Wechsler Ninos Revisada; *Wechsler Intelligence Scale for Children (Revised)

ABSTRACT

Two studies were performed with Puerto Rican children and adolescents in Puerto Rico and Connecticut to determine the reliability and predictive validity of the Spanish translation of the Wechsler Intelligence Scale for Children-Revised, the Escala de Inteligencia Wechsler para Ninos-Revisada (EIWN-R). Results suggest that the EIWN-R is a reliable measure when used with groups of this kind. Although the scale seems reliable, further investigation should be conducted to determine the cultural appropriateness of various items in the Verbal Scale. The need for norms for the Puerto Rican population is supported in these studies, though with a limited sample, by the lower IQ mean score. The use of American norms with Puerto Rican children in the United States might result in inappropriate placement of children in special education. (RDN)

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ED259068

A STUDY OF THE SPANISH TRANSLATION OF THE WECHSLER INTELLIGENCE SCALE FOR CHILDREN-REVISED WITH PUERTO RICAN CHILDREN AND ADOLESCENTS\1

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UD024 343

1. This paper was presented at The First Circum Mediterranean IACCP (International Association of Cross Cultural Psychology) Conference: "Ethnic Minority and Immigrant Research." Malmo, Sweden, June 27, 1985.

2. The authors are grateful to the Department of Education of Puerto Rico, the Hartford Public Schools, the U.S. Office of Education and the W.K. Kellogg Foundation for their support.

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INTRODUCTION

As early as the 1930s it was recognized that the use of English language intelligence tests with non-English speakers was inapropiate (Pitner, 1932; Sanchez, 1934). Psychologists soon recognized the need for tests of mental ability that were appropriate for non-English speaking children. Attempts have been made to adapt various available tests for Hispanic groups in the United States but these attempts have created great controversy. Professionals working with Hispanic groups have expressed concern regarding the appropriateness of the tests for such children, and many alternative solutions to the problem have been considered.

The tranlation of existing tests provides one solution to the problem of assessment of non-English speaking children. However, the translation of a test is of no value unless the cultural milieu of the individual is considered. Lonner (1980) suggests that as a test item diffuses into another culture, its form, function, and meaning may vary in unknown and perhaps unpredictable ways. Tests used across cultures should be tapping into the same functional characteristics. If they do not, then conclusions drawn from making comparisons of test scores can be of limited value.

Jensen (1980) indicates that translation of a test from one language to another is risky and should always be done in connection with proper psychometric equating methods. In order to provide a valid and reliable instrument, different approaches to test translation have been proposed by some cross-cultural researchers (Brislin, 1980).

Although these approaches to test tranlation could result in a valid test, there are cultural differences that will affect the

individual's performance on the test. The translation and standardization of a test do not guarantee that the test is appropriate for all individuals who speak the traget language. There are many dialects within one group, and such tests are appropriate only to the extent that their items are as common to the subject being tested as they are to those sampled in the standarization procedure.

One such test developed in one language and translated to the language of another culture is the Wechsler Intelligence Scale for Children (WISC). As of 1974, twelve foreign translations of the Scale have been approved and published. One of these translation was conducted in Puerto Rico and validated in 1955 with 128 subjects in three different studies (Roca, 1955). Norms for the Puerto Rican population were never developed. Since then, this translation has been used in Puerto Rico and the United States to measure the intellectual ability of Puerto Rican children using the English-language norms developed in the United States.

A new version of the WISC (WISC-R) was published in 1974. In 1977 a study was conducted to tranlate and adapt to Cuban-Spanish the WISC-R and to standarize the resultant instrument with a predominantly Cuban origin population in Dade County, Florida (Martin, 1977).

Martin's translation of the WISC-R became the core of the Escala de Inteligencia Wechsler para Ninos-Revisada (EIWN-R) published by the Psychological Corporation in 1982. The instrument was pilot tested with 105 children selected at random from Dade County Schools (Wechsler, 1982). The data from this tryout were subjected to item analysis, which resulted in a slight reordering of items on some of the verbal scales, and the elimination of two items (Wechsler, 1982). Coefficients of reliability for the EIWN-R proved to be comparable to those of the WISC-R (Martin, 1977). An estimate of the construct validity was a demonstration of the progression of scale scores from the youngest to oldest groups of children on each of the subtest on the scale (Martin, 1977).

The EIWN-R provides alternate words or phrases recommended by Mexican-American, Puerto Rican and Cuban psychologists. This instrument is not considered a fully developed intelligence scale because the test was published without norms for representative samples of Hispanic children.

Two studies have been performed by the authors with Puerto Rican children and adolescents in Puerto Rico and Connecticut. This paper summarizes these studies.

STUDY # 1

The purpose of this study was to determine if the Spanish research edition of the EIWN-R was a reliable instrument with a group of children in Puerto Rico.

Sample. The sample consited of 51 children from a town in the Central Mountain Region of Puerto Rico. This sample was selected at random from within pre-existing groups of public elementary school children. Their age ranged from 10-5 to 13-1 year s old with a mean age of 10-6. The sample consisted of 23 males and 28 females.

Instrument and Procedure. The subjects were selected using a table of random numbers (Kerlinger, 1973). Once the subjects were selected, the Spanish research edition of the WISC-R was administered individually to the subjects. In administering the test, instructions and procedures in the EIWN-R manual were followed. All items were administered to each subject and all responses were recorded.

Results and Discussion. Alpha coefficient of reliability for the Verbal and Performance subtests were obtained, excluding Coding and Digit Span for which coefficient alpha is not appropriate. Subtests on the Verbal Scale yielded the higher coefficient of reliability ranging from .53 for arithmetic to .80 for Vocabulary. The coefficient of reliability for the subtests on the Performance Scale ranged from .40 for Object Assembly to .67 for Block design.

Based on the nine subtest, a total alpha coefficient of .92 was obtained. For coding and Digit Span, test-retest coefficient of stability were obtained. These coefficients of .70 and .78, respectively, enhance the internal consistency of the total test.

Point biserial correlations for each item with both the subtest total and the total test as a whole were calculated as another indicator of the internal consistency of the test. Items for the Coding and Digit Span subtests were excluded. A summary of the items showed that in all subtests the items were generally ordered from less to most difficult. However, it is suggested that consideration be given to reordering 22 items. Several items, although with appropriate level of difficulty,yielded non-significant subtest-total correlations, suggesting a need for reevaluation.

Scale scores were derived for each subtest using the WISC-R manual (Weschler, 1974), and correlations between the subtests and the Verbal, Performance, and Full Scale total scores. The highest correlation was between Verbal and Full Scale (r= .94) scores. The lowest correlation was between Arithmetic and Picture Completion subtests (r= .20). As expected, subtests on the Verbal Scale correlated high among themselves (.73 to .89), and the same ocurred among the Performance Scale subtests (.63 to.79).

The mean and standard deviation for the Full Scale IQ (FSIQ) were also calculated. A mean IQ of 91.8 with a standard deviation of 14.5 was obtained.

The results of this study suggest that the EIWN-R is a reliable instrument for this group of Puerto Rican children. It

also suggest that consideration should be given to the reordering of items before the development of norms. The need for norms is suggested by the mean IQ obtained from this sample.

STUDY # 2

The purpose of this study was to determine the reliability and predictive validity with a group of Puerto Rican adolescent in Hartford, Connecticut.

Sample. The sample consisted of 80 recent arrival Puerto Rican students enrolled in one of two middle schools in the city of Hartford. These students had been in the United States for less than one school year. The subjects were selected at random from within pre-existing groups. The sample consisted of 40 males and 40 females. The age ranged from 12-4 to 14-0. The mean age was 13-5.

Instrument and Procedure. Once the subjects were selcted the EIWN-R was administered individually following the instructions and procedures in the EIWN-R manual. All subtest were administered except for Digit Span and Mazes. These subtests were not administered because they are used as alternative subtests.

Results and Discussion. Alpha coefficient of reliability for the Verbal and Performance subtest, excluding Coding were obtained. On the Verbal scale subtests, coefficients range from .55 for Comprehension to .79 for Vocabulary. On the performance Scale, coefficients of reliability ranged from .60 for Object Assembly to .72 for Block Design. An alpha coefficient of .86 for the total test was obtained, suggesting that the test has internal consistency.

Point biserial correlations for each item with the subtest total and the total test indicated that in all subtest the items were generally ordered from least to most-difficult. Although, most items seemed to be appropriate, consideration should be given to reordering of 21 items. A mean IQ of 85.2 and a standard deviation of 15.9 were obtained.

A simple regression analysis with grade point average (GPA) as dependent variable showed that Verbal IQ had the highest value (.45) in predicting GPA scores followed by Full Scale IQ (.42), which suggest that the EIWN-R is an appropriate predictor of academic achievement as measured by GPA.

CONCLUSION

The results of these two studies suggest that the EIWN-R is a reliable measure when used with a group of children in Puerto Rico and adolescents in the United States. Although the scale seems to be reliable, further studies should be conducted to determine the cultural appropriateness of various items in the Verbal Scale.

The need of norms for the Puerto Rican population are supported in these studies, though with a limited sample, by the lower IQ mean score. The use of American norms with Puerto Rican children in the United States might result in inappropriate placement of children in special education classes. The Puerto Rican population in the United States in on the rise. The development of norms for this population will be of benefit to psychologists as well as educators.

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